

Claims

What is claimed is:

1. An adhesive patch comprising a flexible backing having a front side and a back side and a cosmetic formulation positioned on at least a portion of the front side of the backing, in at least a portion of the front side of the backing, or on and in at least a portion of the front side of the backing; wherein the cosmetic formulation comprises:
 - a cosmetic agent;
 - a solvent;
 - a skin absorption enhancer; and
 - at least one of a pressure sensitive adhesive and a polymer.
2. The adhesive patch of claim 1 wherein the backing comprises a nonwoven fabric.
3. The adhesive patch of claim 1 wherein the backing comprises polycellulose fibers, polyester fibers, polyurethane fibers, polyolefin fibers, polyamide fibers, cotton fibers, or any mixture thereof.
4. The adhesive patch of claim 1 wherein the backing comprises open cell foam.
5. The adhesive patch of claim 4 wherein the open cell foam comprises polyurethane, polyvinyl chloride, polyethylene, or a combination thereof.
6. The adhesive patch of claim 1 wherein upon contact with skin, the backing retains the cosmetic formulation and the patch allows moisture from the skin to pass.

7. The adhesive patch of claim 1 wherein the cosmetic agent is an anti-oxidant.

8. The adhesive patch of claim 7 wherein the anti-oxidant is a free radical scavenger.

9. The adhesive patch of claim 8 wherein the free radical scavenger is at least one of lycopene, tumeric, green tea, white tea, an alpha hydroxy acid, beta hydroxy acid, Vitamin C, Vitamin E, Vitamin A, an acceptable salt thereof, or an acceptable derivative thereof.

10. The adhesive patch of claim 9 wherein the acceptable salt is an ammonium salt.

11. The adhesive patch of claim 9 wherein the alpha hydroxy acid is lactic acid, tartaric acid, citric acid, glycolic acid, malic acid, alpha-hydroxy octanoic acid, alpha-hydroxy caprylic acid, a mixed fruit acid, a sugar cane extract, or an acceptable salt thereof.

12. The adhesive patch of claim 11 wherein the acceptable salt is an ammonium salt.

13. The adhesive patch of claim 9 wherein the beta hydroxy acid is salicylic acid, beta-hydroxybutanoic acid, tropic acid, trethocanic acid, or an acceptable salt thereof.

14. The adhesive patch of claim 13 wherein the acceptable salt is an ammonium salt.

15. The adhesive patch of claim 1 wherein the cosmetic agent is a collagen synthesis stimulator, a fibroblast growth stimulator, a collagen cross-linking inhibitor, or a combination thereof.

16. The adhesive patch of claim 15 wherein the collagen synthesis stimulator is a plant extract containing kinetin (6 furfurylaminopurine), vitamin C, a copper containing peptide, or a combination thereof.

17. The adhesive patch of claim 15 wherein the fibroblast growth stimulator is a copper containing peptide, retin A, or a cytokine.

18. The adhesive patch of claim 17 wherein the cytokine is a Fibroblast Growth Factor.

19. The adhesive patch of claim 15 wherein the collagen cross-linking inhibitor is aminoguanidine or carnosine.

20. The adhesive patch of claim 1 wherein the cosmetic agent is tourmaline, caffeine, theophylline, or a combination thereof.

21. The adhesive patch of claim 1 wherein the cosmetic agent is present in about 0.01 wt.% to about 4.0 wt.% of the cosmetic formulation.

22. The adhesive patch of claim 1 wherein the cosmetic agent is present in about 0.05 wt.% to about 2.5 wt.% of the cosmetic formulation.

23. The adhesive patch of claim 1 wherein the cosmetic agent is present in about 0.1 wt.% to about 1.0 wt.% of the cosmetic formulation.

24. The adhesive patch of claim 1 wherein the cosmetic agent is located on the entire surface of the front side of the backing.

25. The patch of claim 1 wherein the cosmetic agent is completely embedded in the backing.

26. The adhesive patch of claim 1 wherein the solvent comprises a polyhydric alcohol, water, or a combination thereof. *election of solvent*

27. The adhesive patch of claim 26 wherein the polyhydric alcohol is glycerin, propylene glycol, ethylene glycol, triethylene glycol, or a combination thereof. *e*

28. The adhesive patch of claim 26 wherein the polyhydric alcohol is present up to about 90 wt.% of the cosmetic formulation.

29. The adhesive patch of claim 26 wherein the polyhydric alcohol is present in about 20 wt.% to about 60 wt.% of the cosmetic formulation.

30. The adhesive patch of claim 26 wherein the water is present in about 20 wt.% to about 80 wt.% of the cosmetic formulation.

31. The adhesive patch of claim 1 wherein the solvent is present in about 5 wt.% to about 90 wt.% of the cosmetic formulation.

32. The adhesive patch of claim 1 wherein the solvent comprises water; triethylene glycol; glycerin; propylene glycol; ethylene glycol; triacetin; 1,3-propane diol; 2-methyl-1,3-propane diol; glycerol ricinoleate; PEG-6 caprylic / capric glycerides; caprylic / capric triglycerides; propyleneglycol dicaprylate / dicaprinate; glycerol monostearate; glycerol monocaprylate; glycerol monolaurate; neopentyl

alcohol; 1-hexadecanol; hydroxypropyl beta-cyclodextrin; vitamin E; vitamin E acetate; deoxycholic acid; taurodeoxycholic acid; 3-[(3-cholamidopropyl) dimethylammonio]-1-propane-sulfonate; BigCHAP; cholic acid; cholesterol NF; propylene carbonate; lecithin; diethylene glycol ethyl ether; diethylene glycol ethyl ether acetate; an acceptable salt thereof; or a combination thereof.

33. The adhesive patch of claim 1 wherein the solvent is located on the entire surface of the front side of the backing.

34. The patch of claim 1 wherein the solvent is completely embedded in the backing.

35. The adhesive patch of claim 1 wherein the pressure sensitive adhesive comprises one or more acrylic ester copolymers.

36. The adhesive patch of claim 35 wherein each of the one or more acrylic ester copolymers is present up to about 30 wt.% of the cosmetic formulation.

37. The adhesive patch of claim 35 wherein each of the one or more acrylic ester copolymers is present in about 2 wt.% of the cosmetic formulation to about 30 wt.% of the cosmetic formulation.

38. The adhesive patch of claim 35 wherein all of the one or more acrylic ester copolymers, combined, are present in about 2 wt.% to about 30 wt.% of the cosmetic formulation.

39. The adhesive patch of claim 1 wherein the pressure sensitive adhesive is located on the entire surface of the front side of the backing.

40. The patch of claim 1 wherein the pressure sensitive adhesive is completely embedded in the backing.
41. The adhesive patch of claim 1 wherein the pressure sensitive adhesive further comprises an emulsifier.
42. The adhesive patch of claim 41 wherein the emulsifier is pectin.
43. The adhesive patch of claim 42 wherein the pectin is present in about 2.0 wt.% to about 20.0 wt.% of the cosmetic formulation.
44. The adhesive patch of claim 1 wherein the polymer is a polymer that includes a quaternary ammonium salt, gum tragacanth, gum Ghatti, gum agar, pectin, chitin, a derivative of chitin, carrageenan, a calcium cross-linked alginate, a cross-linked polymer by means of boron or a di- or tri-valent metal ion, an aldehyde cross-linked gelatin, gelatin, karaya, a polyacrylamide, a polyacrylic acid, xanthan gum, guar gum, a natural polymer, a synthetic polymer, a hydrophilic polymer, a hydrocolloidal polymer, starch, a starch derivative or graft copolymer, vinyl acetate copolymer, polyvinyl pyrrolidone, polyethylene oxide, algin, derivatives of algin, a polyacrylate, polymaleic acid, polymaleic anhydride, a polyurethane, a polyurea, gum acacia, locust bean gum, modified guar gum, maltodextrin, carboxymethyl cellulose, carboxypropyl cellulose, polyvinyl alcohol, poly AMPS, sodium polyacrylate, or a mixture thereof.
45. The adhesive patch of claim 1 wherein the polymer is polyvinyl alcohol, sodium polyacrylate, gelatin, or a combination thereof.
46. The adhesive patch of claim 45 wherein the polyvinyl alcohol is present in about 1.0 wt.% to about 20 wt.% the cosmetic formulation.

47. The adhesive patch of claim 45 wherein the sodium polyacrylate is present in about 1.0 wt.% to about 20.0 wt.% of the cosmetic formulation.
48. The adhesive patch of claim 45 wherein the gelatin is present in about 1.0 wt.% to about 30.0 wt.% of the cosmetic formulation.
49. The adhesive patch of claim 1 wherein the polymer is located on the entire surface of the front side of the backing.
50. The patch of claim 1 wherein the polymer is completely embedded in the backing.
51. The adhesive patch of claim 1 wherein the cosmetic formulation further comprises a fragrance.
52. The adhesive patch of claim 51 wherein the fragrance is a floral scent, a fruit scent, a plant leaf scent, a plant seed scent, a plant root scent, a plant berry scent, a plant bark scent, or any combination thereof.
53. The adhesive patch of claim 51 wherein the fragrance is grape fragrance, musk fragrance, light vanilla fragrance, Jergens lotion fragrance, Vaseline Intensive Care fragrance, Nivea Lotion fragrance, Ivory Soap fragrance, amaretto fragrance, blueberry fragrance, coffee fragrance, egg nog fragrance, peanut butter fragrance, rum cake fragrance, honey almond fragrance, ginger bread house fragrance, coffee cake & spice fragrance, raspberry rose fragrance, cucumber, sassafras fragrance, strawberry fragrance, grapefruit pink fragrance, home sweet fragrance, jeweled citrus fragrance, lemon, mango fragrance, mulberry fragrance, orange flower fragrance, passion fruit fragrance, pikaki fragrance, freesia fragrance, china rain fragrance, coconut fragrance, apple fragrance, baked bread fragrance, cornucopia fragrance,

57. The adhesive patch of claim 1 wherein the backing is vapor permeable.
58. The adhesive patch of claim 1 wherein the backing comprises water insoluble material.
59. The adhesive patch of claim 1 wherein the backing comprises water soluble material.
60. The adhesive patch of claim 1 wherein the backing comprises polycellulose fibers, polyester fibers, polyurethane fibers, polyolefin fibers, polyamide fibers, cotton fibers, copolyester fibers, or any mixture thereof.
61. The adhesive patch of claim 1 wherein upon contact with skin, the backing retains the cosmetic formulation and the patch allows moisture from the skin to pass.
62. The adhesive patch of claim 1 wherein the backing has a thickness of about 0.025 mm to about 1.25 mm.
63. The adhesive patch of claim 1 wherein the backing comprises a nonwoven fabric.
64. The adhesive patch of claim 1 wherein at least a portion of the backing is treated with a sizing agent such that the portion of the backing that is treated with the sizing agent has a surface energy of about 20 dynes/cm² to about 65 dynes/cm².
65. The adhesive patch of claim 64 wherein the sizing agent is a fluorocarbon solution, a silicone-containing compound, or a combination thereof.

66. The adhesive patch of claim 65 wherein the backing that is treated with the fluorocarbon solution is Vilmed M1585 W/HY, Vilmed M1585H/HY, Vilmed M1586 W/HY, Vilmed M1586 H/HY, Vilmed M1570, Vilmed M1573 F, Vilmed M1573 FH, Vilmed M1577 F, Vilmed M1578 F, Vilmed M1578 FH, or a combination thereof.

67. The adhesive patch of claim 65 wherein the silicone-containing compound is a polydimethyl siloxane, a dialkylsiloxane, a dimethylsiloxo vinyl alkene, a dialkylsiloxo vinyl alkene, a dimethylsiloxo acrylate, a dialkylsiloxo acrylate, a vinyl terminated polydimethylsiloxane, a vinyl terminated polydialkylsiloxane, or a combination thereof.

68. The adhesive patch of claim 64 wherein the entire front side of the backing is treated with the sizing agent.

69. The adhesive patch of claim 64 wherein the sizing agent penetrates at least a portion of the underlying surface of the front side of the backing.

70. The adhesive patch of claim 64 wherein the sizing agent penetrates the entire underlying surface of the front side of the backing.

71. The adhesive patch of claim 64 wherein the entire backing is treated with the sizing agent.

72. The adhesive patch of claim 1 wherein the cosmetic formulation further comprises one or more skin conditioners.

73. The adhesive patch of claim 72 wherein the skin conditioner is an alpha hydroxy acid, a glycosaminoglycan, grape seed oil, cranberry seed oil, green tea, white

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tea, methylparaben, propylparaben, caffeine, xanthine, Vitamin B-3, nicotinamide, licorice, calamine, aluminum hydroxide gel, cocoa butter, aloe, lanolin, glycerin, Vitamin E, Vitamin E acetate, farnesol, glycyrrhetic acid, propylene glycol, ethylene glycol, triethylene glycol, hard fat, kaolin, lanolin, mineral oil, petrolatum, topical starch, white petroleum, cod liver oil, shark liver oil, zinc oxide; or a combination thereof.

74. The adhesive patch of claim 73 wherein the alpha hydroxy acid is present up to about 5.0 wt.% of the cosmetic formulation.

75. The adhesive patch of claim 1 further comprising a keratolytic agent.

76. The adhesive patch of claim 75 wherein the keratolytic agent is alcloxa, resorcinol, or a combination thereof.

77. The adhesive patch of claim 76 wherein the alcloxa is present up to about 2.0 wt.% of the cosmetic formulation; or the resorcinol is present up to about 3.0 wt.% of the therapeutic formulation.

78. The adhesive patch of claim 76 wherein the alcloxa is present in about 0.2 wt.% of the cosmetic formulation to about 2.0 wt.% of the cosmetic formulation; or the resorcinol is present in about 1.0 wt.% of the cosmetic formulation to about 3.0 wt.% of the therapeutic formulation.

79. The adhesive patch of claim 1 wherein the cosmetic formulation further comprises a filler.

80. The adhesive patch of claim 76 wherein the filler is malto dextrin.

81. The adhesive patch of claim 80 wherein the malto dextrin is present in about 1.0 wt.% to about 10.0 wt.% of the cosmetic formulation.

82. The adhesive patch of claim 1 wherein the skin absorption enhancer is diethylene glycol monoethyl ether, dimethyl sulfoxide (DMSO), C₁₀DMSO, ionic surfactants, non-ionic surfactants, isopropyl myristate (IPM), or a combination thereof.

83. The adhesive patch of claim 1 wherein the skin absorption enhancer is diethylene glycol monoethyl ether.

84. The adhesive patch of claim 1 having a thickness of about 0.20 mm to about 0.75 mm.

85. The adhesive patch of claim 1 further comprising a release liner that is mounted on the front side of the backing.

86. The adhesive patch of claim 85 wherein more than one patch is mounted on the release liner.

87. The adhesive patch of claim 85 wherein about 2 to about 20 adhesive patches are mounted on the release liner.

88. The adhesive patch of claim 1 further comprising a preservative.

89. The adhesive patch of claim 88 wherein the preservative is sodium meta bisulfite (NaS₂O₅), sodium bisulfite (NaHSO₃), quat-15, parabens, dichlorobenzyl alcohol, ethylene diamine tetraacetic acid, formaldehyde, gum benzoin, imidazolidinyl urea, phenyl-mercuric acetate, poly aminopropyl biguanide, propyl gallate, sorbic acid, cresol, chloroacetamide sodium benzoate, chloromethyl-methylisothiazolinone,

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chloromethyl-methylisothiazolon, chloromethyl-methylisothiazolinone benzalkonium chloride, an octylisothiazolinone benzimidazol-compound, chloromethyl-methylisothiazolinone octylisothiazolinone, o-phenylphenol benzisothiazolinone, o-phenylphenol benzisothiazolinone, benzisothiazolinone, an aliphatic amine of 2-thiopyridineoxide, benzoic acid, editic acid, phenolic acid, benzyl alcohol, isopropyl alcohol, benzenethonium chloride, bronopol, cetrimide, chlorohexidine, chlorobutanol, chlorocresol, phenol, phenoxyethanol, phenyl ethyl alcohol, phenylmercuric acetate, phenylmercuric borate, phenylmercuric nitrate, potassium sorbate, propylene glycol, sodium benzoate, sodium propionate, thimerosal, acceptable salts thereof; or a combination thereof.

90. The adhesive patch of claim 88 wherein the preservative is present in about 0.01 wt.% to about 1.5 wt.% of the cosmetic formulation.

91. The adhesive patch of claim 1 further comprising a keratolytic agent.

92. The adhesive patch of claim 91 wherein the keratolytic agent is alcloxa, resorcinol, or a combination thereof.

93. The adhesive patch of claim 91 wherein the keratolytic agent is present in about 0.2 wt.% to about 3.0 wt.% of the cosmetic formulation.

94. The adhesive patch of claim 1 further comprising an astringent.

95. The adhesive patch of claim 94 wherein the astringent is alum, tannic acid, calamine, witch hazel, zinc oxide, or a combination thereof.

96. The adhesive patch of claim 94 wherein the astringent is present up to about 25 wt.% of the cosmetic formulation.

97. The adhesive patch of claim 1 further comprising a skin protectant or skin conditioner.

98. The adhesive patch of claim 97 wherein the skin protectant or skin conditioner is an alpha hydroxy acid, a glycosaminoglycan, grape seed oil, cranberry seed oil, green tea, white tea, methylparaben, propylparaben, caffeine, xanthine, Vitamin B-3, nicotinamide, licorice, calamine, aluminum hydroxide gel, cocoa butter, aloe, lanolin, glycerin, Vitamin E, Vitamin E acetate, farnesol, glycyrrhetic acid, propylene glycol, ethylene glycol, triethylene glycol, hard fat, kaolin, lanolin, mineral oil, petrolatum, topical starch, white petroleum, cod liver oil, shark liver oil, zinc oxide; or a combination thereof.

99. The adhesive patch of claim 97 wherein the skin protectant or skin conditioner is present up to about 2.0 wt.% of the cosmetic formulation.

100. An adhesive patch comprising a flexible backing having a front side and a back side and a cosmetic formulation positioned on at least a portion of the front side of the backing, in at least a portion of the front side of the backing, or on and in at least a portion of the front side of the backing; wherein the cosmetic formulation comprises:

a cosmetic agent selected from the group consisting of: an antioxidant, a collagen synthesis stimulator, a fibroblast growth stimulator, a collagen cross-linking inhibitor, caffeine, theophylline, and combinations thereof;

a solvent;

a skin absorption enhancer; and

at least one of a pressure sensitive adhesive and a polymer.

101. An adhesive patch comprising a flexible backing having a front side and a back side and a cosmetic formulation positioned on at least a portion of the front side

of the backing, in at least a portion of the front side of the backing, or on and in at least a portion of the front side of the backing; wherein the cosmetic formulation comprises:

a cosmetic agent selected from the group consisting of: Vitamin C, Vitamin E, Vitamin A, lactic acid, tartaric acid, citric acid, glycolic acid, malic acid, alpha-hydroxy octanoic acid, alpha-hydroxy caprylic acid, a mixed fruit acid, a sugar cane extract, salicylic acid, beta-hydroxybutanoic acid, tropic acid, trethocanic acid, a plant extract containing kinetin (6 furfurylaminopurine), Vitamin C, a copper containing peptide, retin A, a cytokine, a Fibroblast Growth Factor, aminoguanidine, carnosine, and combinations thereof;

a solvent;

a skin absorption enhancer; and

at least one of a pressure sensitive adhesive and a polymer.

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An adhesive mask comprising:

a first portion and a second portion each comprising a flexible backing having a front side and a back side and a cosmetic formulation positioned on at least a portion of the front side of the backing, in at least a portion of the front side of the backing, or on and in at least a portion of the front side of the backing; wherein the cosmetic formulation comprises a cosmetic agent, a solvent, a skin absorption enhancer and at least one of a pressure sensitive adhesive and a polymer;

the first portion comprises two apertures for the eyes of a person's face, such that the front side of the backing adhesively attaches to a skin surface of the person's face near the person's eyes; and

the second portion comprises an aperture corresponding to the mouth of a person's face, such that the front side of the backing adhesively attaches to a skin surface of the person's face near the person's mouth.

aminoguanidine, carnosine, and combinations thereof, a solvent, a skin absorption enhancer and at least one of a pressure sensitive adhesive and a polymer;

the first portion comprises two apertures for the eyes of a person's face, such that the front side of the backing adhesively attaches to a skin surface of the person's face near the person's eyes; and

the second portion comprises an aperture corresponding to the mouth of a person's face, such that the front side of the backing adhesively attaches to a skin surface of the person's face near the person's mouth.

105. An adhesive mask comprising:

a first portion and a second portion each comprising a flexible backing having a front side and a back side and a cosmetic formulation positioned on at least a portion of the front side of the backing, in at least a portion of the front side of the backing, or on and in at least a portion of the front side of the backing; wherein the cosmetic formulation comprises a cosmetic agent, a solvent, a skin absorption enhancer and at least one of a pressure sensitive adhesive and a polymer;

the first portion being contoured to the nose, cheeks and eyes of a person's face and comprises two apertures for the eyes of a person's face, such that the front side of the backing adhesively attaches to a skin surface of the person's face near the person's eyes; and

the second portion being contoured to the mouth and chin of a person's face and comprises an aperture corresponding to the mouth of a person's face, such that the front side of the backing adhesively attaches to a skin surface of the person's face near the person's mouth.

106. A method for improving the appearance of wrinkles in a mammal in need thereof, the method comprising applying to the surface of the skin of the mammal having the wrinkles or to the surface of the skin of the mammal at risk thereof, an

adhesive patch of claim 1 for a period of time effective to improve the appearance of the wrinkles.

107. The method of claim 106 wherein the mammal is a human.

108. The method of claim 106 wherein the period of time is up to about 24 hours.

109. ✓ A method for exfoliating a skin surface of a mammal, the method comprising applying to the skin surface of the mammal in need of such exfoliation an adhesive patch of claim 1 for a period of time effective to adhere the adhesive skin patch to the skin surface, and removing the adhesive skin patch, thereby effectively exfoliating the skin surface.

110. The method of claim 109 wherein the mammal is a human.

111. The method of claim 109 wherein the period of time is up to about 24 hours.

112. ✓ A method for hydrating a skin surface of a mammal, the method comprising applying to the skin surface of the mammal in need of such hydration an adhesive patch of claim 1 for a period of time effective to hydrate the skin surface.

113. The method of claim 112 wherein the mammal is a human.

114. The method of claim 112 wherein the period of time is up to about 24 hours.

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115. A method for firming a skin surface of a mammal, the method comprising applying to the skin surface of the mammal in need of such firming an adhesive patch of claim 1 for a period of time effective to hydrate the skin surface.

116. The method of claim 115 wherein the mammal is a human.

117. The method of claim 115 wherein the period of time is up to about 24 hours.

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